

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A magnetic memory device comprising:

a semiconductor substrate;

a transistor formed above said semiconductor substrate;

a tunnel magneto-resistive element formed above an interlayer dielectric film covering said transistor of said semiconductor substrate;

a first wiring line buried in said interlayer dielectric film and connected to a source/drain diffusion layer of said transistor;

a second wiring line buried just beneath said tunnel magneto-resistive element while overlying said first wiring line in said interlayer dielectric film, to provide a current magnetic field to said tunnel magneto-resistive element during writing; and

a third wiring line connected to an upper surface of said tunnel magneto-resistive element and provided to cross said second wiring line, to provide a current magnetic field to said tunnel magneto-resistive element during writing and also to cause a cell current to flow during reading,

wherein said second wiring line is formed and patterned so that its both edges are placed outside a pattern of said tunnel magneto-resistive element.

Claim 2 (Original): The device according to claim 1, wherein said first wiring line is formed by patterning so that its both edges are placed outside of the pattern of said tunnel magneto-resistive element.

Claim 3 (Original): The device according to claim 2, wherein a gate wiring line of said transistor is patterned to pass through a region immediately beneath said tunnel magneto-resistive element while having a width greater than that of said tunnel magneto-resistive element.

Claim 4 (Original): The device according to claim 2, wherein a gate wiring line of said transistor is patterned to extend outside of a region immediately beneath said tunnel magneto-resistive element.

Claim 5 (Original): The device according to claim 2, wherein the first and second wiring lines are formed by patterning to pass through a region immediately beneath said tunnel magneto-resistive element while having a width greater than that of said tunnel magneto-resistive element.

Claim 6 (Original): The device according to claim 3, wherein a gate wiring line of said transistor is patterned to pass through a region immediately beneath said tunnel magneto-resistive element while having a width greater than that of said tunnel magneto-resistive element.

Claim 7 (Original): The device according to claim 3, wherein a gate wiring line of said transistor is patterned to extend outside of a region immediately beneath said tunnel magneto-resistive element.

Claim 8 (Original): A magnetic memory device comprising:

a semiconductor substrate;

a transistor formed above said semiconductor substrate;

a tunnel magneto-resistive element formed above an interlayer dielectric film covering said transistor of said semiconductor substrate;

a first wiring line buried in said interlayer dielectric film and connected to a source/drain diffusion layer of said transistor;

a second wiring line buried under said tunnel magneto-resistive element while overlying said first wiring line in said interlayer dielectric film, to provide a current magnetic field to said tunnel magneto-resistive element during writing; and

a third wiring line connected to an upper surface of said tunnel magneto-resistive element and provided to cross said second wiring line, to provide a current magnetic field to said tunnel magneto-resistive element during writing and to cause a cell current to flow during reading, wherein

all of element regions including all wiring lines including the first and second wiring lines formed under said tunnel magneto-resistive element above said semiconductor substrate, a gate wiring line of said transistor, more than one wiring contact and the source/drain diffusion layer are formed by patterning so that edges thereof are placed outside of a region immediately underlying said tunnel magneto-resistive element.